

Notice of Allowability

Application No.

10/072,974

Examiner

Kern Matthew

Applicant(s)

TOKUDA ET AL.

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☒ The allowed claim(s) is/are 1-5.
3. ☒ The drawings filed on 12 February 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>5/14/03; 6/1/02</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other ____. |

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-5 are allowed over the prior art of record. The following is an examiner's statement of reasons for allowance:

As per claim 1, it is allowed because it recites:

- maintaining a syntactic error table for a student storing syntactic subtrees and respective subtree frequencies;
- matching a student's sentence input to a correct sentence in a database template;
- obtaining a grammar tree of the matched correct sentence;
- matching the input sentence to leaves of the matched correct sentence grammar tree;
- for each leaf of the matched correct sentence grammar tree that is matched with words from the input sentence that are marked as errors, finding a minimum syntactic subtree of the error leaf and associating the error leaf with said subtree;
- for all subtrees found, combining leaves associated with a common subtree;
- for each common subtree, searching the syntactic error table containing subtrees for the common subtree; and
- updating the syntactic error table to reflect the common subtree.

Kato et al. teach forming a grammar tree(syntax analysis tree) of a user's input sentences.

Kato et al., however, do not teach matching the input sentence to a sentence in the database whose grammar tree was formed and associating a subtree with the leaf where a discrepancy in matching the two sentences exists.

Nagase teaches matching parsed input sentences to database templates, thus forming a syntactic subtree for a parsing process in a machine translation system.

Nagase, however, neither teaches that, for each leaf of the grammar tree that is matched with words marked as errors, finding a minimum syntactic subtree of the leaf and associating the leaf with that subtree; nor combining the leaves associated with the common subtree; nor searching the syntactic error table for the common subtree.

Sekine et al. teach parsing a sentence to form grammar trees. They also teach combining leaves associated with a common subtree (collapsing particular categories into single instances (number/proper noun sequence replace by single number/proper noun)).

Sekine et al., however, does not teach their forming a grammar tree for comparing a user input sentence with a sentence in a database. Further, Sekine et al. do not teach forming a syntactic subtree derived from the leaf of the database sentence where the input sentence and sentence from the database differ. Finally, Sekine et al. do not teach entering the combined subtree into a syntactic error table.

Kai et al teach parsing a single input sentence and using a grammar tree to find a syntax error, and a syntactic error table (error information stack) that stores this error.

Kai et al, however, do not teach comparing an input sentence to a correct sentence in database template and, based on a discrepancy in the match, forming a subtree that corresponds with the leaf of the grammar tree that is matched with words marked as errors. Kai et al also do not teach combining all the subtrees associated with a leaf and putting this combined subtree into a syntactic error table.

Neither Kato et al, Nagase, Sekine et al, nor Kai et al singularly or in combination teach nor fairly suggest matching the input sentence with the correct sentence in a database template and obtaining a grammar tree of the matched correct sentence; for each leaf of the grammar tree that is matched with words marked as errors, finding a minimum syntactic subtree of the leaf and associating the leaf with the said subtree; for all subtrees found, combining leaves associated with a common subtree; for each common subtree, searching the syntactic error table for a common subtree; and updating the syntactic error table for the common subtree.

2. Claims 2-5 are allowable because they further limit the allowable claims or their parent claims.

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3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee, and to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

Takada et al (JP pub. Number 04-024825) teach editing a grammar.

Parry et al. (6,077,085) teach technology-assisted learning.

Tokuda et al (6,598,019 and 6,804,637) have the same assignee, and teach matching an input sentence to a correct sentence in a database template (template pattern matching) and determining a proficiency level (proficiency ratios) to determine the ability of the student in a translation evaluating system.

5. Any inquiry concerning this communication should be directed to Mr. Matthew Kern, whose telephone number is (571) 272-7606 or fax number (571) 273-7606. The examiner can normally be reached Mondays-Fridays from 9:30 am to 6 pm.

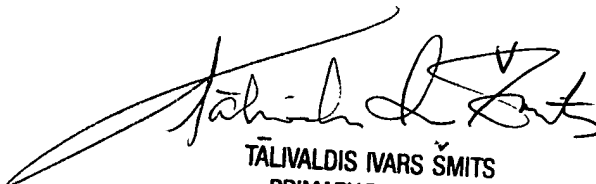
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Talivaldis Smits, can be reached at (571) 272-7628. The facsimile phone number for this Technology Center is (571) 272-8300.

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Any inquiry of a general nature of relating to the status of this application should be directed to the Technology Center 2600 receptionist, whose telephone number is (571) 272-2600.

6/28/05

MCK



TĀLIVALDIS IVARS ŠMITS
PRIMARY EXAMINER